

WHAT IS CLAIMED IS:

1. A hydration tank comprising:
a set of walls defining an interior portion;
an inlet in fluid communication with the interior portion for receiving fluid;
an outlet in fluid communication with the interior portion for discharging fluid; and
a first weir extending partially across the interior portion for deflecting fluid flow
between the inlet and the outlet to increase the distance traveled by the fluid between
the inlet and outlet.
2. The hydration tank of claim 1 further comprising a second weir extending
partially across the interior portion in a spaced relation to the first weir for deflecting the
fluid flow between the inlet and the outlet to further increase the distance traveled by
the fluid between the inlet and outlet, the first and second weirs being constructed and
arranged to cooperate with the walls to direct the fluid through the interior portion in
different directions in a first plane and in different directions in a second plane.
3. The hydration tank of claim 2 wherein the directions of flow in each plane are
opposite.
4. The hydration tank of claim 1 wherein the first weir is attached to a first wall and
spaced from a second wall to define a first opening through which the fluid flows.
5. The hydration tank of claim 4 wherein the first weir deflects the fluid flow through
the first opening to direct the fluid in a first direction in a first plane.
6. The hydration tank of claim 5 further comprising a second weir extending
partially across the interior portion and in a spaced relation to the first weir for deflecting

the fluid flow between the inlet and the outlet to further increase the distance traveled by the fluid between the inlet and outlet.

7. The hydration tank of claim 6 wherein the second weir is attached to the second wall and spaced from the first wall to define a second opening through which the fluid flows.

8. The hydration tank of claim 7 wherein the openings defined by the weirs are on opposite sides of the interior portion.

9. The hydration tank of claim 7 wherein the second weir deflects the fluid flow through the second opening to direct the fluid in a second direction in the first plane.

10. The hydration tank of claim 9 wherein the first direction is opposite to the second direction in the first plane.

11. The hydration tank of claim 9 wherein one surface of the first weir extends at an angle to the second wall.

12. The hydration tank of claim 11 wherein the size of the first opening varies so that more fluid passes through the relatively large portion of the first opening than through the relatively small portion of the first opening to direct the fluid in a third direction in a second plane.

13. The hydration tank of claim 12 wherein one surface of the second weir extends at an angle to the first wall.

14. The hydration tank of claim 13 wherein the second opening is inverted with respect to the first opening so that more fluid passes through the relatively large portion of the second opening than through the relatively small portion thereof to direct the fluid in a fourth direction in the second plane.

15. The hydration tank of claim 14 wherein the third direction is opposite to the fourth direction in the second plane.

16. The hydration tank of claim 1 wherein a first surface of the first weir is attached to a first wall and a second surface of the first weir is spaced from a second wall and extends at an angle to the second wall to define a first opening.

17. The hydration tank of claim 16 wherein the size of the first opening varies so that more fluid passes through the relatively large portion of the first opening than through the relatively small portion of the first opening to direct the fluid in a first direction in a plane.

18. The hydration tank of claim 17 further comprising a second weir extending partially across the interior portion and in a spaced relation to the first weir for deflecting the fluid flow between the inlet and the outlet to further increase the distance traveled by the fluid between the inlet and the outlet.

19. The hydration tank of claim 18 wherein a first surface of the second weir is attached to the second wall and a second surface of the second weir is spaced from the first wall and extends at an angle to the first wall to define an second opening.

20. The hydration tank of claim 19 wherein the openings defined by the weirs are on opposite sides of the interior portion.

21. The hydration tank of claim 19 wherein the second opening is inverted with respect to the first opening so that more fluid passes through the relatively large portion of the second opening than through the relatively small portion thereof to direct the fluid in a second direction in the plane.

22. The hydration tank of claim 21 wherein the first direction is opposite to the second direction in the plane.

2000-IP-001843

23. A method of providing a flow rate of a fluid in a hydration tank, comprising the steps of:

providing an inlet in fluid communication with an interior portion of the hydration tank for receiving fluid;

providing an outlet in fluid communication with the interior portion of the hydration tank for discharging fluid; and

deflecting fluid flow between the inlet and the outlet to increase the distance traveled by the fluid between the inlet and outlet.

24. The method of claim 23 wherein the step of deflecting directs the fluid through the interior portion of the hydration tank in different directions in a first plane and in different directions in a second plane.

25. The method of claim 23 wherein the step of deflecting directs the fluid in a first direction in a first plane.

26. The method of claim 25 wherein the step of deflecting directs the fluid in a second direction in the first plane.

27. The method of claim 26 wherein the step of deflecting directs the fluid in a third direction in a second plane.

28. The method of claim 27 wherein the step of deflecting directs the fluid in a fourth direction in the second plane.

29. The method of claim 23 wherein the step of directing comprises providing at least a first opening in the interior portion through which the fluid flows to direct the fluid in a first direction in a first plane.

30. The method of claim 29 further comprising the step of varying the size of the first opening so that more fluid passes through the relatively large portion of the first opening than through the relatively small portion thereof to direct the fluid in a second direction in a second plane.

31. The method of claim 30 wherein a second opening is provided in the interior portion in a spaced relation to the first opening to direct the fluid in a third direction in the first plane.

32. The method of claim 31 further comprising the step of varying the size of the second opening so that more fluid passes through the relatively large portion of the second opening than through the relatively small portion thereof to direct the fluid in a fourth direction in the second plane.

33. The method of claim 29 wherein a second opening is provided in the interior portion in a spaced relation to the first opening to direct the fluid in a second direction in the first plane.

34. The method of claim 33 further comprising the step of varying the size of the first opening so that more fluid passes through the relatively large portion of the first opening than through the relatively small portion thereof to direct the fluid in a third direction in a second plane.

35. The method of claim 34 further comprising the step of varying the size of the second opening so that more fluid passes through the relatively large portion of the second opening than through the relatively small portion thereof to direct the fluid in a fourth direction in the second plane.

installing a first weir extending partially across an interior portion of the hydration tank for deflecting a fluid flow between an inlet and an outlet; and

[illegible]